Global Polio Eradication Initiative

Progress 2001

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Executive summary

The global incidence of polio fell to 483 new cases in 2001, bringing the disease to the brink of eradication. Wild poliovirus circulation is limited to parts of ten countries as the geographic spread and biodiversity of the virus has dramatically declined. The single greatest threat to polio eradication is now the funding gap of US$ 275 million.

In 2001, several evaluations of the programme were undertaken to review progress and lessons for future disease eradication and control initiatives.[1] These reviews suggested that the annual Progress Report measure the programme against the milestones for the areas of work detailed in the Global Polio Eradication Initiative Strategic Plan 2001-2005.[2] Consequently, this Progress Report 2001 systematically evaluates progress and remaining challenges in each area of work, giving a comprehensive overview of the programme.

The areas of work from the Strategic Plan are as follows: Interrupting transmission of polioviruses; Supplementary immunization activities; Certification-standard surveillance; Containment of wild poliovirus stocks; Post-certification immunization policy; and Strengthening health systems through routine immunization and surveillance.[3]

Overall, the 2001 milestones for each of these areas of work have been achieved. **Indigenous transmission of the wild poliovirus was stopped in all but ten countries of the world. The highest remaining transmission is in India, Nigeria and Pakistan.** Intensified National Immunization Days (NIDs) continued in all endemic and high-risk countries, surveillance improved markedly, progress has been steady in the implementation of the strategies for the post-certification era, and the polio physical and human infrastructure continues to strengthen routine immunization and disease surveillance services.

Looking forward, the 7th Global Polio Eradication Technical Consultative Group meeting (TCG) has endorsed new milestones for 2002–2003. These new milestones present more aggressive goals for the programme, that better reflect the progress to date, the experience gained in each area of work and the potential of the Initiative.[4]

Challenges remain to attaining these milestones, particularly in stopping transmission of the wild poliovirus and minimizing the risk of paralytic polio following global polio-free certification. Challenges to stopping transmission everywhere include ensuring continued access to all children under five, especially those isolated by conflict, minority status and geography including those children in densely populated urban areas. Political commitment to all areas of the programme is crucial, both for supplementary immunization activities in endemic and high-risk countries, especially those with low routine immunization, and in polio-free countries, for maintenance of population immunity. Commitment to the attainment and maintenance of certification-standard surveillance everywhere is crucial up to and beyond global polio-free certification. To minimize the risks of paralytic polio following certification, WHO is coordinating the programme of work to appropriately contain laboratory stocks, and develop post-certification immunization policy.

Globally, the US$ 275 million funding gap remains the largest obstacle to stopping transmission of the wild poliovirus and certifying the world as polio-free. ■

1 For example *Review of the Global Polio Eradication Initiative and DFID's involvement*, DFID Health Systems Review Sector, December 2001 and the WHO Executive Board document *Thematic Evaluations in 2001, Eradication of Poliomyelitis, Report by the Director-General*, EBPDC8/3, 13 December 2001.
2 *WHO/Polio/00.05*
3 Note the titles of some of the areas of work have been refined to better reflect the programme goals.
4 Global eradication of poliomyelitis *Report of the 7th meeting of the Global Technical Consultative Group for Poliomyelitis Eradication*. Geneva, 9-11 April 2002. To be published autumn 2002.

Polio eradication – major developments in 2001

The Highlights

- **The number of polio endemic countries fell from 20 in 2000 to 10 in 2001.** The number of polio cases fell by more than 85%, from 2979 to 483, and the geographic distribution of the wild poliovirus was significantly reduced in several countries.

- Two traditional poliovirus reservoirs, **Bangladesh and the Democratic Republic of the Congo, have not found a single case of polio for over a year**.

- In November 2001, the **WHO European Region (EUR)** (51 countries) celebrated three years polio-free, keeping the Region on track to become the 3rd WHO Region to be certified.

- Type 2 wild poliovirus has not been isolated since October 1999, and type 3 was isolated only in Afghanistan, India, Niger, Nigeria, Pakistan and Somalia in 2001.

- **The funding gap for 2002-2005 was reduced from US$ 400 million to US$ 275 million**, primarily thanks to donations from Rotary International, Canada, Japan, the Netherlands, the United Kingdom and the United States. The Global Polio Eradication Initiative also welcomed new partners including Austria, Ireland and Luxembourg.

- Globally, **575 million children were vaccinated in 94 countries**, with two billion doses of oral polio vaccine.

- 35 million children were vaccinated in Afghanistan and Pakistan during two rounds of NIDs in September and November of 2001, at the height of the difficulties.

- Conflict-affected countries in Central Africa, including Angola and the Democratic Republic of the Congo, synchronized NIDs for the first time – vaccinating almost 17 million children in the region (*see below*).

Central Africa • A synchronized success

Motivated by the success of the 2000 synchronized NIDs in west Africa, and recognizing the need to reach children in difficult border and remote areas, key Central African countries long affected by conflict synchronized their NIDs in 2001.

Angola, Congo, the Democratic Republic of the Congo and Gabon planned three rounds of synchronized NIDs between July and September, targeting 16 million children. President Joseph Kabila of the Democratic Republic of the Congo presided over the launch event in Kinshasa, and was joined by Carlo Ravizza, past-President of Rotary International, Rima Salah, UNICEF Regional Director for West and Central Africa, and WHO Director-General Gro Harlem Brundtland. (*see photo*)

"You are planning to access children who may never have seen a health worker – giving them their very first health service. You will immunize children crossing borders, who otherwise would have been missed," said Dr Brundtland in her address to hundreds of Congolese people gathered for the launch.

As Congo, the Democratic Republic of the Congo and Angola were three of just twenty remaining polio-endemic countries in 2000, synchronized NIDs were the recommended strategy to stop transmission. The strategy, proven effective in west Africa, eastern Europe and central Asia, was made more challenging by conflict permeating the region.

With special emphasis on crowded well-travelled cross-border regions, teams in Brazzaville vaccinated children coming off the ferry boat from Kinshasa. They camped at airports and bus stations, and trekked cold boxes into dense forests to reach every child under five. The myriad of grassy islands in the river Congo – particularly challenging with no detailed maps, were divided between the Democratic Republic of the Congo and Congolese vaccinators – with teams traversing into the neighbouring country to ensure every island was covered, even those with just a few children.

The result – almost 17 million children reached, including 2.5 million zero-dose children. Of the four countries, only Angola is still considered polio-endemic, having isolated wild poliovirus in 2001. To eliminate the virus in Angola, and secure the gains in the region, the synchronized effort will be expanded in 2002, to include bordering Namibia and Zambia.

Photo: WHO/S. Tarfinn

Photo: WHO/J.M. Giboux

Afghanistan •
Protecting children in the midst of conflict

Despite uncertainty and lack of security after September 2001, over 180 000 volunteers in Afghanistan and Pakistan picked up their vaccine carriers and set out to reach 35 million children during NIDs in late September and again in November.

In Afghanistan, the NIDs were thrown into question after 11 September, owing to evacuation of the international staff and general uncertainty in the country. However, the dozens of national staff members who remained continued their work towards two successful rounds, supported by WHO and UNICEF.

With all civilian flights to Afghanistan cancelled, a major logistical challenge was transporting enough vaccine into the country. A UNICEF/WHO convoy spent seven days bringing the vaccine, medicines, malaria bednets and emergency health kits through northern Pakistan into Badakshan province. The journey involved treacherous single-track roads, and a crossing by foot in sub-zero temperatures over a 4558 metre pass, guiding horses loaded with the precious cargo.

As Afghan people began travelling towards the borders, the NID planners shifted their focus to border areas to ensure children on the move received the vaccine. International staff in Islamabad continued to offer their support, using limited satellite and radio communications to assist with planning. The Pakistan team included additional cross-border immunization points, and increased their supplies and teams for coverage in the growing refugee camps.

Throughout the difficult weeks of intense conflict, surveillance officers continued to collect stool samples, a few risking their lives to retrieve and transport samples from some of the most heavily affected areas.

Remarkably, samples arrived in perfect condition from remote regions in Afghanistan to the laboratory in Islamabad, just a few days after they were collected. Despite these efforts, surveillance quality declined in the most heavily-affected areas. The priorities in 2002 are to ensure surveillance is brought back to certification-standard, and to conduct mop-up campaigns in response to any identification of wild poliovirus.

The efforts in September and November were crucial to continued progress in polio's eradication in Afghanistan and Pakistan in 2001. Pakistan decreased both the geographic distribution and the number of new wild poliovirus cases by 42% (199 in 2000 reduced to 116 in 2001). With very good surveillance, only 11 cases were isolated in Afghanistan in 2001, mainly clustered around Kandahar province.

As two of the remaining ten polio-endemic countries, and considered a joint area of high transmission, both Afghanistan and Pakistan will continue to carry out intensified synchronized supplementary immunization activities (SIAs) throughout 2002, with four rounds of NIDs and several Sub-National Immunization Days (SNIDs) planned for each country.

The Challenges

- The impact of the events of **11 September 2001** on the polio eradication programme included a deterioration of the surveillance system in Afghanistan, displacement of personnel and some interruption of operations. Despite the difficulties however, NIDs were still conducted in September and November, reaching close to 5 million Afghan children and 30 million Pakistani children (*see box above*).

- The discovery of an outbreak due to a circulating vaccine-derived poliovirus (cVDPV) in the Philippines underscored that **cVDPV** is a rare, but real event, requiring that all countries guard against similar episodes through high routine immunization and certification-standard AFP surveillance.

- **Importations** into Algeria, Bulgaria, Georgia and Zambia demonstrated the importance of certification-standard surveillance in detecting wild polioviruses in polio-free areas, and that until all children are protected from polio, children everywhere are at risk. These importations also demonstrated that polio can be imported from a neighbouring country, or from thousands of kilometres away.

- The discovery of **polio amongst Angolan refugees** in western Zambia indicated that the virus is circulating in eastern Angola where conflict has hampered access to children – both for immunization activities and surveillance. Access has increased in 2002 with the county-wide ceasefire announced in April.

- Despite a reduction in the biodiversity and geographic extent of the virus, the number of **polio cases in India increased from 265 in 2000 to 268 in 2001**. This is resulting in intensified efforts especially in the two remaining endemic states.

- Despite a reduction of the funding gap from US$ 400 million to US$ 275 million, the **funding gap is the single greatest threat to the Initiative**. Furthermore, should wild poliovirus transmission continue in all endemic areas into 2003, the 2002-2005 programme costs could increase by up to a total of US$ 150 million. ■

Interrupting transmission of polioviruses

Stopping transmission

2001 Milestone:
Wild poliovirus transmission will be stopped in all countries except five to ten countries in Asia and Africa.
Status: Achieved.

For the purposes of tracking progress, wild poliovirus transmission is considered interrupted in a country following at least 12 months with no evidence of circulation of endemic wild poliovirus in the presence of high-quality surveillance.

In 2001, the number of polio-endemic countries was reduced to just 10 – halved from 20 in 2000, and the number of new polio cases declined substantially, from 2979 in 2000 to 483 in 2001. The Global Polio Eradication Initiative also reduced the biodiversity and geographic extent of the virus within each endemic country.

Together, those countries with high-intensity transmission account for 95% of the 2001 polio cases (457 of 483 cases). India, with 268 cases, accounted for 56% of this total, while Pakistan had 119 cases and Nigeria had 56 cases. The areas with low-intensity transmission account for 3% of the total (15 of 483 cases). The remaining 2% includes one case of uncertain origin in Mauritania, and importations into Algeria (1), Bulgaria (2), Georgia (1) and Zambia (3) (*see map below*).

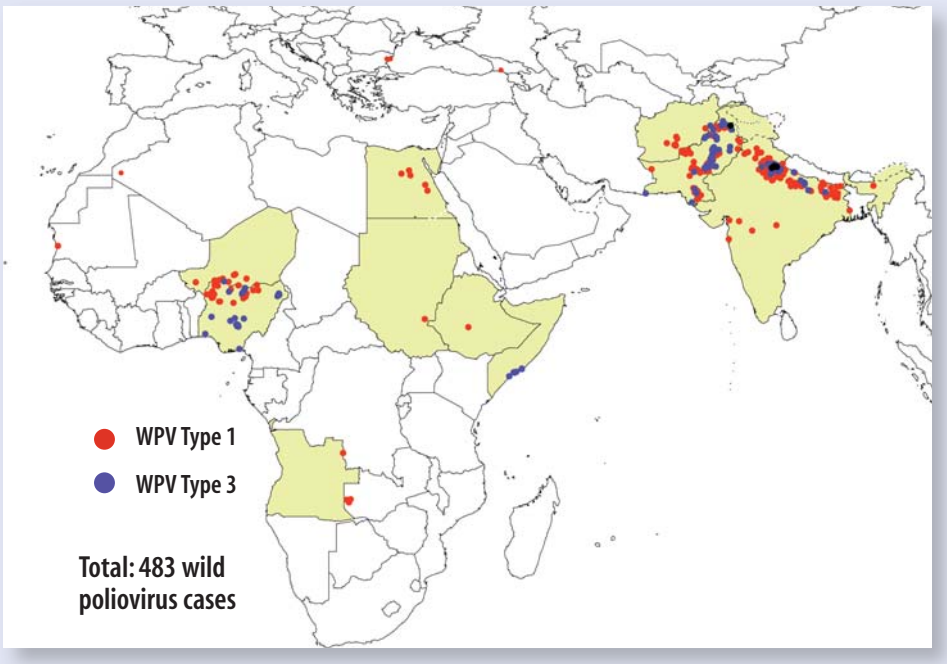
Laboratory confirmed cases of poliomyelitis,* 2001

Areas with high-intensity transmission

Northern India
Pakistan/Afghanistan
Nigeria/Niger

Areas with low-intensity transmission

Ethiopia/Somalia/Sudan
Egypt
Angola



*Cases in Algeria, Bulgaria, Georgia and Zambia are importations. The case in Mauritania was possibly an importation.

2002 Milestones:

- **Transmission of wild poliovirus will be stopped in all countries;**
- **EUR will be certified polio-free.**

2003 Milestone:

- **Maintenance of global polio-free status.**

Major progress is also underscored by the absence in 2001 of indigenous wild poliovirus in two former global wild poliovirus reservoirs – Bangladesh and the Democratic Republic of the Congo, despite very good surveillance. This demonstrates that polio eradication strategies are effective everywhere, including conflict-affected and densely populated countries.

In the WHO African Region (AFR), a number of countries which were polio-endemic in 2000, including Benin, the Central African Republic, Chad, Congo, Côte d'Ivoire and Ghana, recorded no cases in 2001, also in the presence of good surveillance. In the South-East Asia Region (SEAR) and the Eastern Mediterranean Region (EMR), Nepal and Iraq had detected polio virus in 2000 but were no longer endemic in 2001.

Further progress is evident in the decreasing geographic extent of virus transmission within each of the remaining endemic countries, including in Afghanistan, India, Nigeria and Pakistan (*see box 'The anatomy of eradication' below*).

The biodiversity of the remaining virus has also been reduced with fewer virus sub-strains circulating in endemic countries. Of the three wild poliovirus types, type 2 has not been isolated since October 1999, and type 3 was isolated only in Afghanistan, India, Niger, Nigeria and Somalia in 2001.

Challenges to stopping transmission

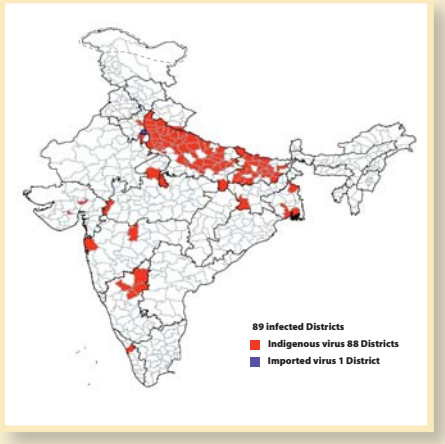
The 2002 milestone in the *Strategic Plan 2001 – 2005* is for wild poliovirus transmission to be stopped in all countries.

To succeed, eradication activities must be of the highest quality in all remaining endemic and high-risk countries. The full implementation of the polio eradication strategies is crucial, including door-to-door delivery of oral polio vaccine (OPV), attainment and maintenance of certification-standard surveillance and well-planned mop-up campaigns in response to virus isolation.

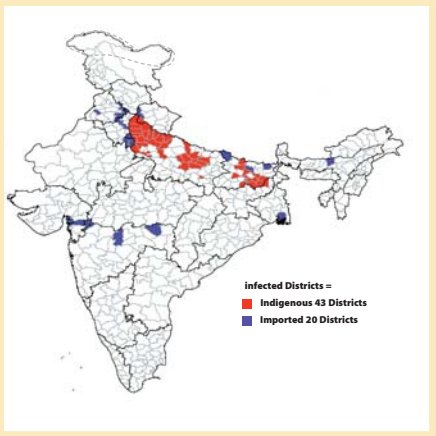
India • The anatomy of eradication

While the total number of wild-virus confirmed cases reported in India in 2001 (268) remained approximately the same as 2000 (265 cases), a careful epidemiological and laboratory analysis demonstrates continued measurable progress in the country. Wild poliovirus types 1 and 3 continued to circulate during 2001, though these were endemic only to the northern states of Uttar Pradesh and Bihar. Overall, fewer districts reported polio cases during 2001 as compared to 2000 (63 vs 89 of 530 total districts in India), and viruses isolated outside Uttar Pradesh and Bihar were known to be importations from those states (20 of the 63 infected districts were outside of Uttar Pradesh and Bihar). Closer analysis indicates only three poliovirus lineages of type 1 circulated in India in 2001, reduced from eight in 2000. This level of detail helps focus the programme even further on the remaining infected districts. Immunization activities planned for 2002 and 2003 focus on rapidly stopping transmission in the country, through continued NIDs, SNIDs and mop-up campaigns.

2000: 89 infected districts



2001: 63 infected districts



- *Quality*

Issues regarding quality of activities are being addressed in western Uttar Pradesh in India, where additional monitoring is required to ensure lessons learned are being incorporated into all activities. As northern Nigeria and bordering areas of Niger are considered one high transmission area, efforts to improve the quality of SIAs in this region are also being intensified, especially with regard to strong coordination of activities between these countries. Pakistan will further improve efforts to target the joint reservoir areas shared with Afghanistan, as well as the high-risk areas within the country.

Based on recent genetic sequencing information, the 7th Global TCG was concerned that until recently, the extent of virus transmission in Egypt had been severely underestimated. Stopping transmission in Egypt requires urgent improvements in the quality of surveillance and supplementary immunization. WHO and its partners are supporting the Egyptian Ministry of Health to this end.

- *Access*

Given the progress in eradication in 2001 in the remaining endemic countries, areas affected by conflict are of increasing importance to global eradication and include four of the remaining ten endemic countries (Afghanistan, Angola, Somalia and Sudan). While governments and polio partner agencies continue to make progress in accessing children in conflict-affected areas, additional efforts to identify and access critical areas will be carried out in 2002. These include improving access to children particularly in the city of Mogadishu and the Lower Shabelle region in Somalia, and in eastern Angola where pockets of children have never been immunized. The ceasefire in Angola provides a unique window of opportunity to reach these children, but the deterioration of security in any of these areas poses a major risk to accessing children and stopping transmission.

The current situation in Afghanistan is favourable for continued access to children there, and access has recently been achieved to the Nuba Mountains in Sudan.

Photo: WHO/S. Toffinn

Access issues are also increasingly relevant to children in minority communities, as data analysis suggests that many of the remaining polio-affected communities are minority populations. Focused social mobilization with traditional and community leaders, stronger micro-planning and monitoring will all be crucial in reaching these children particularly in India and Pakistan.

- *Political commitment*

In polio-endemic countries, commitment will be crucial to undertaking 3-4 NIDs a year at least through 2003. In high risk polio-free countries, commitment is also required to conduct SIAs at least every three years from 2003. SIAs will be required every three years in polio-free countries with <90% OPV 3. To ensure transmission is stopped and to guide SIAs, all countries, polio-endemic and polio-free, must maintain certification-standard surveillance.

- *Funding gap*

The funding gap for activities from 2002-2005 has been identified as the single greatest threat to polio eradication. While it was reduced from US$ 400 million to US$ 275 million in 2001, the 7th Global TCG stressed that this gap represents a major risk to the Initiative. With US$ 60 million still required in 2002 alone, several immunization activities have been revised, postponed or cancelled for lack of sufficient funding. The urgency in closing this funding gap is underscored by the fact that an additional US$ 150 million could be required should transmission continue in all endemic areas in 2003. For more information on the funding gap, see page 21.[5]

5 Global Polio Eradication Initiative *Estimated financial resource requirements for 2002 – 2005.* WHO/Polio/01.05. Revised figures for 2003-2005 will be available from October, 2002.

Polio eradication

Strategic Plan 2001 – 2005

Areas of work

Intensified supplementary immunization activities

2001 Milestone:
All endemic countries will conduct either at least four rounds of intensified NIDs or three consecutive NIDs as well as mop-up campaigns.
Status: Achieved.

This milestone was set in response to the 1999 World Health Assembly resolution to accelerate supplementary immunization activities (SIAs).[6] Acceleration includes:

- conducting more than two annual rounds of NIDs;
- improving the quality of SIAs, particularly with a house-to-house strategy, a multisectoral approach, detailed micro-planning, extensive social mobilization and comprehensive supervision of planning and implementation;
- rapidly attaining certification-standard AFP surveillance to guide information for SIA planning and mop-up campaigns.

In 2001, a record 575 million children were immunized with two billion doses of oral polio vaccine during SIAs. Of the 300 SIAs, well over one-third were carried out in the 20 countries considered polio-endemic at the end of 2000. Each of these 20 countries undertook either at least four rounds of intensified NIDs or three consecutive

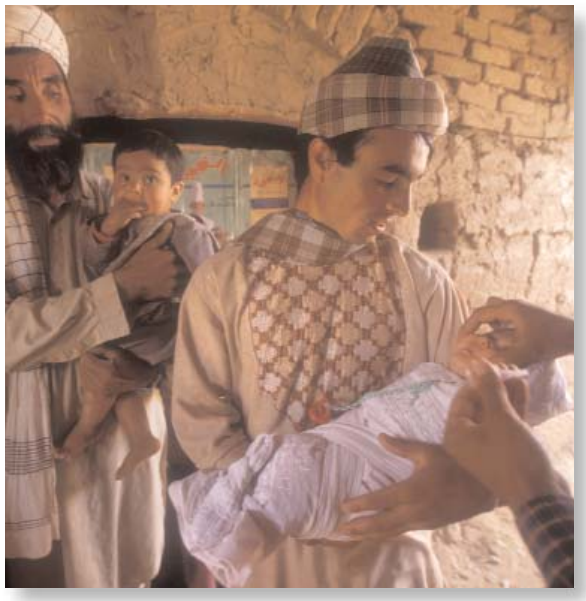


Photo: WHO/J.M. Giboux

NIDs (with SNIDS in high-risk areas) as well as mop-up campaigns (*see table on page 9*).

Synchronized NIDs in several regions were a significant factor in reaching more children. In 2001, this included the three rounds of synchronized NIDs in four central African countries including Angola and the Democratic Republic of the Congo, where almost 17 million children were vaccinated including 2.5 million zero-dose children. Sixteen countries in west Africa synchronized two rounds in late 2001, resulting in the vaccination of 61 million children. Afghanistan and Pakistan, considered one epidemiological block, coordinated their SIAs for four NIDs and one SNID, resulting in much improved cross-border coverage and the vaccination of 35 million children in September and again in November of 2001.

Activities in the Horn of Africa, where transmission of wild poliovirus is low, were intensified in 2001. Despite deteriorating security, Somalia conducted

6 WHA 52.22.

four rounds of NIDs and two SNIDs targeting high-risk areas. Sudan undertook four NIDs, six SNIDs and one mop-up campaign – including first-time access to areas previously isolated by conflict. Ethiopia's two rounds of NIDs and two SNIDs helped secure the gains in that country, with just one wild poliovirus isolated in early 2001.

Egypt carried out two NIDs, three SNIDs and two mop-up campaigns, targeting a total of eight million children under five. However, genetic testing suggests more extensive circulation of wild poliovirus in Egypt than previously thought. The partners of the GPEI are assisting the Egyptian Ministry of Health to improve capacity and infrastructure to ensure every child under five is reached during SIAs in 2002 and 2003.

India continued intensified activities, reaching more than 150 million children during NIDs in the largest national public health campaign in the world. The country undertook two rounds of NIDs, one SNID and 23 mop-ups targeted at high burden zones including Uttar Pradesh, Bihar and Delhi. However, despite these house-to-house campaigns during 2001, it is apparent that a susceptible pool of children under 24 months of age remains unreached in some minority communities. Steps being taken to address this in 2002 include improved training of vaccination teams, improved supervision and targeted social mobilization.

Intensified NIDs and mop-up campaigns using a house-to-house strategy will continue in all polio-endemic countries in 2002 (*see table below*). Increased attention will be given to reaching all children late in the low season for wild poliovirus transmission.

To secure the gains made to date in the interruption of wild poliovirus, NIDs or SNIDs will continue in all high risk countries, including those that were recently endemic, or border endemic countries and have poor surveillance. These are: Bangladesh, Benin, Cameroon, Central African Republic, Chad, Congo, Djibouti, the Democratic Republic of the Congo, Eritrea, Indonesia, Madagascar, Mauritania, Mozambique, Namibia, Nepal, Sierra Leone and Zambia.

Key to the success of this strategy will be continued political commitment to conducting SIAs, particularly challenging in the face of a disappearing disease, and adequate funds to support vaccine purchase, training of staff and volunteers and all logistics.

Intensified supplementary immunization activities

2002 Milestones:

Endemic countries

3-4 NIDs/year and mop-up campaigns will continue in all countries that were endemic in 2000-2001, using a house-to-house strategy.

Polio-free countries

Continued annual SIAs in all high risk polio-free countries and long-term SIA plans established for all countries with OPV3 < 90%.

Intensified supplementary immunization activities

2003 Milestones:

Endemic countries

3-4 NIDs/year and mop-up campaigns will continue in all countries that were endemic in 2001-2002, using a house-to-house strategy.

Polio-free countries

Continued annual SIAs in all high-risk countries, and other polio-free countries with <90% OPV3 conducting SIAs at least every 3 years.

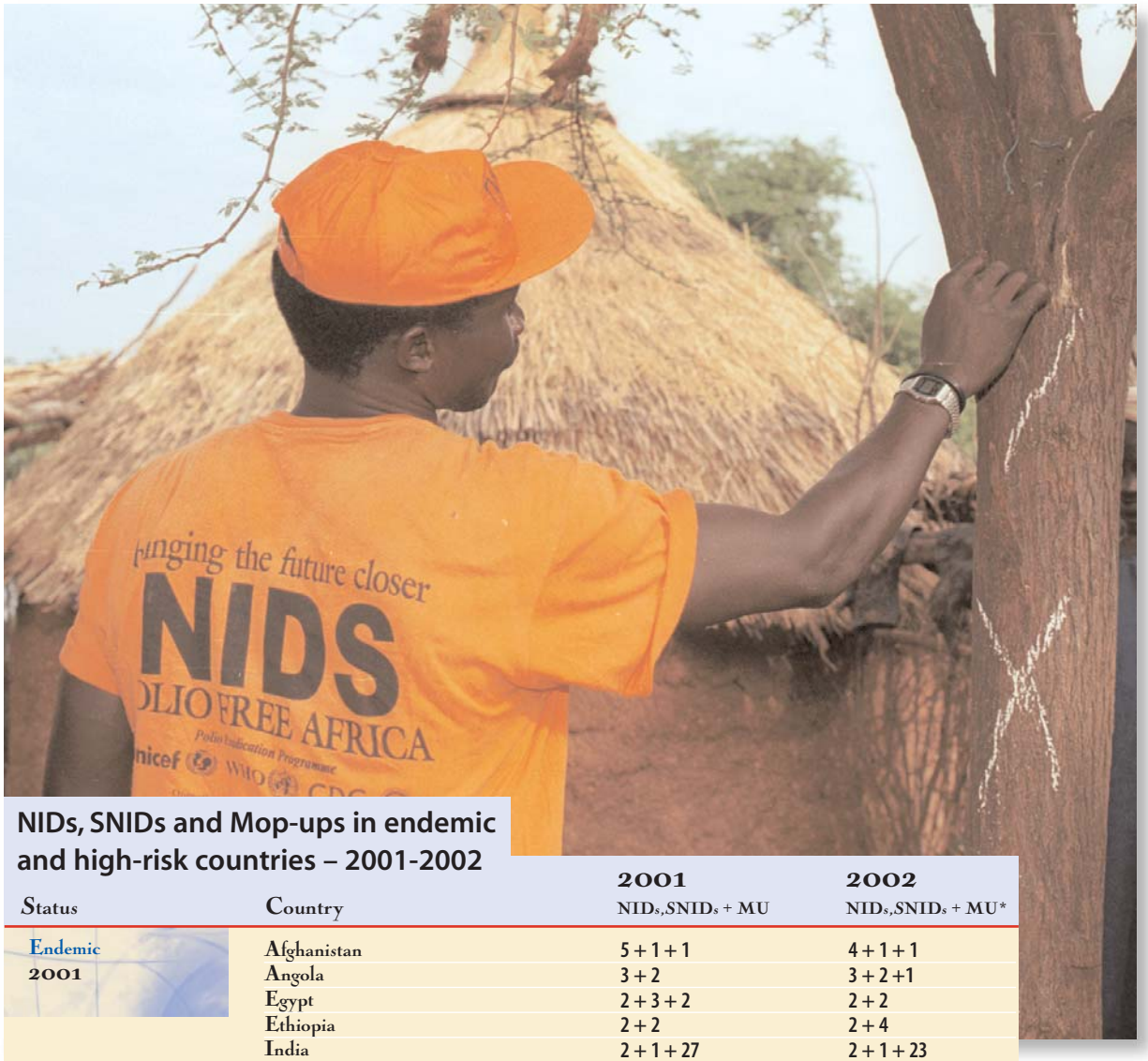


Photo: WHO/P. Blanc

NIDs, SNIDs and Mop-ups in endemic and high-risk countries – 2001-2002

Status	Country	2001 NIDs,SNIDs + MU	2002 NIDs,SNIDs + MU*
Endemic 2001	Afghanistan	5 + 1 + 1	4 + 1 + 1
	Angola	3 + 2	3 + 2 +1
	Egypt	2 + 3 + 2	2 + 2
	Ethiopia	2 + 2	2 + 4
	India	2 + 1 + 27	2 + 1 + 23
	Niger	3	2+2
	Nigeria	4 + 1	3 + 2
	Pakistan	5+1	4 + 3 + 1
	Somalia	4 + 2	2 + 4
	Sudan	4 + 6 + 1	4 + 3
Recent endemic or high-risk 2001 – 2002	Bangladesh	2 + 1	2 + 2
	Benin	2 + 2	2
	Central African Republic	3	2 + 2
	Chad	4	2 + 3
	the Democratic Republic of the Congo	3	3
	Cameroon	1	2 + 1
	Djibouti	2	1 SNID
	DR Congo	3	3
	Eritrea	2 + 2	2
	Indonesia	2 SNIDS	2
	Nepal	1 + 2	1 + 2 + 2
	Madagascar	None	2
	Mauritania	4 + 2	4 + 2
	Mozambique	None	2
	Namibia	2	2
	Sierra Leone	2 + 2	2 + 4
	Zambia	2 SNIDs	2 SNIDs + 2MU

* In addition, mop-up campaigns will be held in all countries upon laboratory confirmation of a wild poliovirus.

Certification-standard surveillance

2001 Milestones:

All countries in AFR will achieve certification-standard surveillance.
Status: Achieved in part.

National Certification Committees (NCCs) will have been established in all countries of SEAR and EMR.
Status: Achieved in part.

The milestones for measuring progress in the achievement and maintenance of certification-standard surveillance include two major areas of work: quality of surveillance, and progress in the certification process.

Quality of surveillance

Substantial progress has been made toward improving surveillance and achieving or maintaining certification-level surveillance in all WHO regions, and in most countries within regions (*see figure on page 11*).

All regions except AFR have achieved certification-standard surveillance on a regional basis. However, AFR continued to make impressive progress, by improving the non-polio AFP rate from 1.5 cases per 100 000 population aged <15 years in 2000 to 2.9 cases in 2001; and the percentage of adequate stool samples from AFP cases increased from 50% in 2000 to 72% in 2001. AFR continues to work towards the goal of 80% adequate stool samples and should achieve this in 2002.

Of the ten remaining polio-endemic countries at the end of 2001, all reported a non-polio AFP rate >1 (compared with eight of these countries in 2000). A >80% adequate stool sample rate was achieved by four of those countries in 2001 compared with two of them in 2000. Further progress is needed, therefore, especially with regard to the adequate stool sampling rate.

- *Laboratory network*

All countries now have access to an accredited laboratory in the WHO polio laboratory network for the processing of stool samples from AFP cases. In December 2001 the network was fully operational in all six WHO regions, and included 147 laboratories, comprising seven Global Specialized Laboratories, 16 Regional Reference Laboratories, 84 National Laboratories, and 40 sub-National Laboratories. Of these, 135 laboratories (92%) were fully accredited, six were provisionally accredited (deficient in one of the areas examined and given a limited time to improve performance before re-assessment), and six laboratories were either pending an accreditation review or had failed to reach accreditation standard.

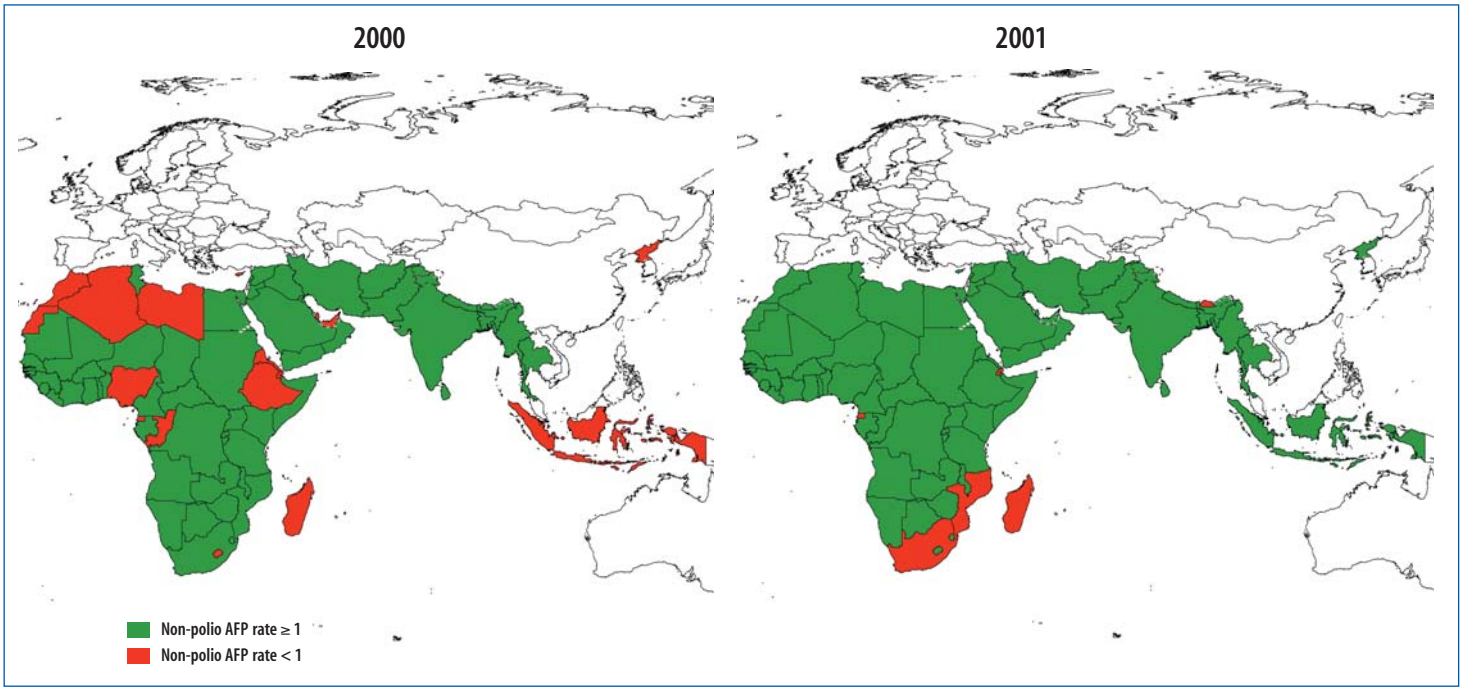
Certification process

Following more than three years without indigenous transmission of wild poliovirus, the European Region is likely to be certified as polio-free in June 2002. EUR will be the third WHO Region to be certified, following AMR in 1994, and WPR in 2000.

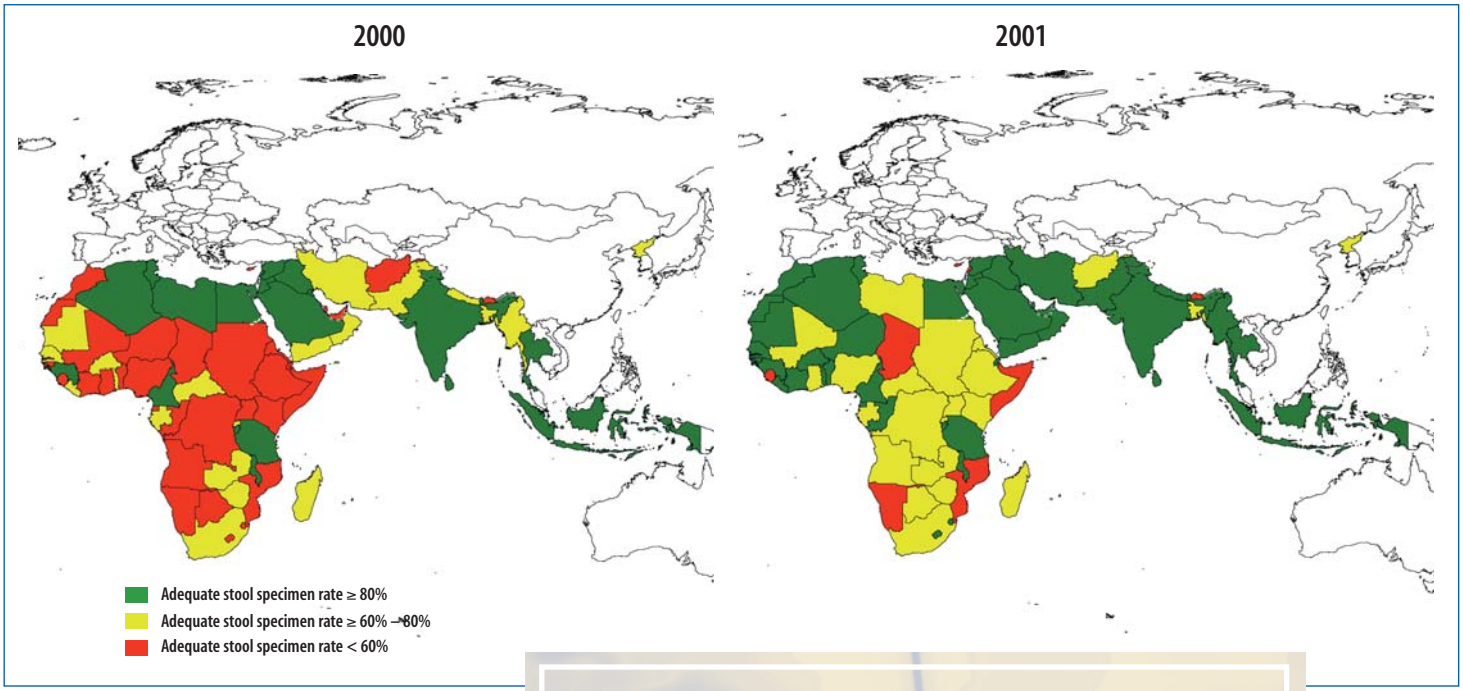
National Certification Committees (NCCs) have been established in all countries of SEAR, and most countries of the African Region (AFR) and the Eastern Mediterranean Region (EMR). In EMR, NCCs will be convened for Afghanistan, Somalia, and the Sudan in 2002.

In AFR, a Regional Certification Commission (RCC) was constituted in 2000. Several meetings since 2000 have focused on the regional plan of action, the structure for certification, and the related processes and procedures. Thirty-nine of 46 chairpersons of National Certification Committees in the Region have been briefed to date.

Non-polio acute flaccid paralysis (AFP) rate* in WHO African, Eastern Mediterranean and South-East Asia Regions

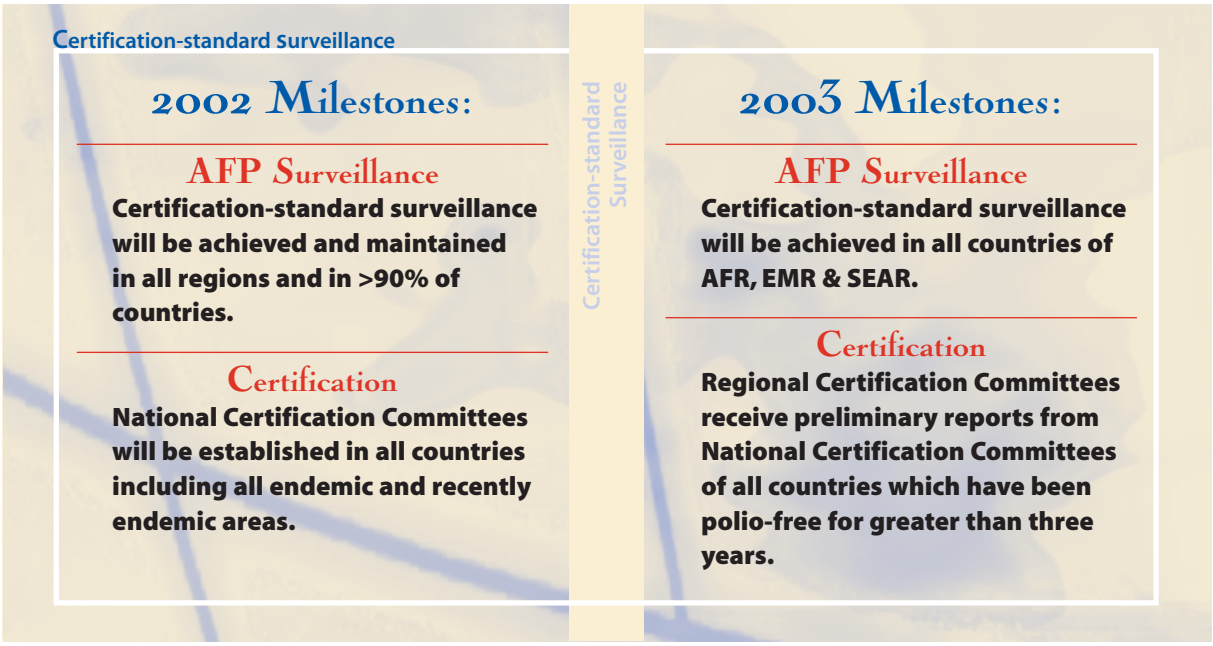


Adequate stool specimen collection rate, in WHO African, Eastern Mediterranean and South-East Asia Regions



***Definition of certification-standard surveillance:**

Non-polio accute flaccid paralysis (AFP) rate of >1 case of AFP detected per 100 000 population less than 15 years of age; >80% of AFP cases have adequate stool samples collected; and 100% of specimens are processed in a WHO-accredited polio network laboratory.



For polio-endemic countries, high-quality AFP surveillance is essential to identify problems and high-risk areas, and to guide supplementary immunization efforts. In polio-free countries, the risk of a poliovirus importation resulting in circulating polio is greatly heightened by the absence of a good surveillance system. As Regional and global certification is dependent on at least three years of certification-standard surveillance, in 2002 every emphasis is being placed on achieving and maintaining such surveillance in all regions and in at least 90% of countries, with major emphasis on improving stool sample collection rates where still inadequate.

In WHO's African Region, the focus for endemic or recently endemic countries is on eastern Angola, Chad and Ethiopia. The African southern block, polio-free for years, must also improve surveillance, and the WHO AFR Office will offer additional support in particular to Mozambique and Madagascar. Overall, the infrastructure of surveillance systems in many African countries remains fragile, requiring continuing technical and administrative support and timely provision of adequate resources.

In the EMR Office, ongoing conflict in Somalia has hampered surveillance efforts, particularly with regards to stool sample collection rates in Mogadishu and the Lower Shabelle. WHO and its partners are focusing on bringing the surveillance system in Afghanistan back to standard, following the instability in late 2001.

Finally, pockets of instability and deteriorating infrastructure in Indonesia resulted in reduced levels of routine immunization and sub-standard surveillance. The WHO SEAR Office has been working with the Government of Indonesia to address this problem, and provided support for the hiring and training of additional surveillance officers.

By the end of 2002, National Certification Committees (NCCs) will be established in all countries – a crucial step in the certification process as the NCCs verify their country's polio-free status, and provide the documentation required for WHO Regional polio-free certification.

Containment of wild poliovirus stocks

2001 Milestone:

Regional guidelines for containment will be created in AFR and SEAR.
Status: Achieved.

National inventories will be completed and all wild poliovirus infectious and potentially infectious materials will be properly contained in AMR, EUR, WPR, and 14 countries of EMR.
Status: Achieved in part.

After transmission of wild poliovirus is interrupted globally, diagnostic and research laboratories, as well as polio vaccine production facilities, will represent the only remaining reservoirs of wild poliovirus. The goal of laboratory containment is to minimize the risk of inadvertent reintroduction of wild poliovirus from these facilities into the human population by ensuring safe and appropriate handling of wild polioviruses or potentially infectious materials. Implementation of the *WHO Global action plan for laboratory containment of wild polioviruses*[7] began in 1999, and the number of countries initiating activities since that time has grown substantially.

Progress towards the goal of laboratory containment is measured in two areas: establishment of strategies (process) and implementation of these strategies (outcomes) by all countries. Establishment of containment strategies has begun in all six WHO regions, including AFR & SEAR, with the creation of Regional Guidelines and plans for implementation of containment activities.

As of May 2002, many countries had successfully compiled inventories of laboratories with stocks of poliovirus, particularly in WPR (32/36) where implementation of the containment activities began earlier than in other areas of the world. Though begun recently, ten countries in AMR are already implementing the activities, including Canada and the United States. European countries made steady progress towards containment and 20/51 countries have now completed an inventory. Finally, containment activities have started in more recently polio-endemic regions such as EMR and SEAR, with two smaller countries in EMR already completing the inventory (*see table below*).

Measuring the intermediate steps towards the completion of national inventories is critical to obtaining a quality national inventory. The 2001 milestone of completing inventories has been subdivided into intermediate steps for 2002/3 to ensure a quality final product.

To achieve the 2002 milestones, WHO will urge all non-endemic countries to appoint a national containment coordinator or task force and establish a national plan of action by the end of 2002, with particular emphasis on the countries of the Americas, as well as appropriate polio-free countries of SEAR and EMR.

Progress with pre-eradication phase laboratory containment activities

Member States in each Region[1] *which have* ➤	*Appointed a national coordinator and started planning process*	*Begun compiling list of biomedical facilities to be surveyed*	*Started conducting survey of laboratories*	*Submitted finalized national inventory of laboratories*
Americas (47 countries)	10	2	2	0
Eastern Mediterranean (24 countries)	18	12	12	2
European (51 countries)	51	51	51	20
South-East Asia (10 countries)	7	4	4	0
Western Pacific (36 countries)	36	36	36	32
Worldwide (216 countries)	*122 countries* 56%	*105 countries* 49%	*105 countries* 49%	*54 countries* 25%

[1] The WHO African Region began pilot containment activities in 2002 in consistently polio-free areas of southern and eastern Africa.

Data as of: May 2002

7 *WHO/V&B/99.32. A revised plan will be available from September 2002.*

Focus will then be on initiating and completing national inventories in all countries and working with laboratories to ensure that appropriate and effective containment conditions are in place. Guidelines for safe manufacturing of inactivated poliovirus vaccine (IPV) from wild poliovirus will be finalized and work will begin with the manufacturers on implementing the necessary conditions in preparation for Global Certification. In addition, WHO will coordinate the development of potential tools to assist national authorities in the validation of the containment process in their country, along with further studies to assess the risk of wild poliovirus in materials identified as 'potentially infectious'. Progress in both of these areas will be reported to the TCG by mid-2003.

The creation of revised versions of the *Global Action Plan* (to be published in September 2002), *Regional Guidelines for Implementing Containment Activities* (available at WHO Regional Offices) and *Guidelines for Containment in IPV Production Facilities* (to be published in December 2002), will all reflect continuing development of appropriate strategies to achieve the goal of laboratory containment.

Photo: WHO

Containment of wild poliovirus stocks

2002 Milestones:

Process

National Task Force/Coordinator and National Plans of Action for laboratory containment are established in all non-endemic countries.

Outcomes

National laboratory surveys are initiated in all non-endemic countries of AMR, EMR, EUR, SEAR with complete inventories in WPR

Containment of wild poliovirus stocks

2003 Milestones:

Process

Regional plans of action are established for the "post global certification phase" in AMR, EUR, and WPR.

Outcomes

National laboratory survey initiated in all countries and inventories completed in AMR, EUR and the non-endemic countries of EMR and SEAR.

Development of post-certification immunization policy

2001 Milestone:
All research studies to determine the strategy for stopping vaccination will be at least at the data collection phase.
Status: Achieved in part.

The importance of coordinating post-certification immunization policy for polio was underscored by the discovery of two episodes of circulating vaccine-derived poliovirus (cVDPV) in the past two years, one on the island of Hispaniola (2000-2001), and the second in the Philippines (2001).[8]

WHO is coordinating a two-part agenda of work (data generation and policy development) to enable an evidence-based decision on the most appropriate immunization option(s) in the post-certification era, based on a framework that evaluates i) the risk of paralytic polio in the post-certification era, and ii) the options for managing those risks.

Data generation

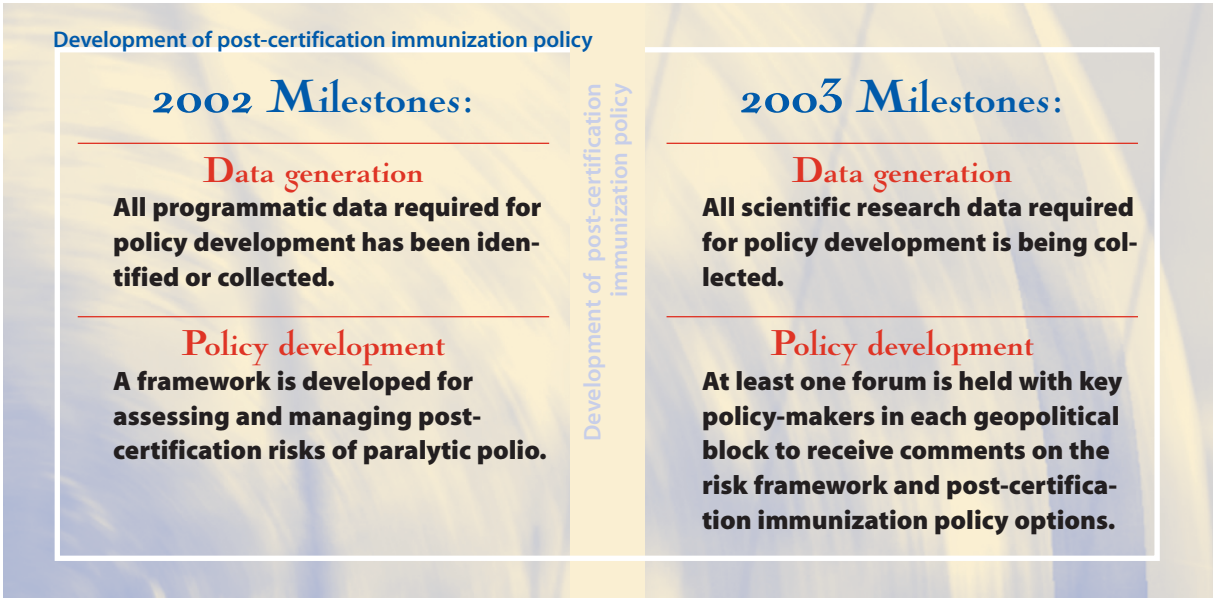
This first area of work has already generated additional programme and scientific data in several pertinent areas, including studies of the frequency and risk of cVDPV, immunodeficient people who are long-term excretors (iVDPVs), IPV efficacy and supply in the developing country setting, and the effect of OPV pulses on cVDPV emergence.

In summary, despite screening over 3400 Sabin-like isolates, no new episodes of cVDPV have been identified. Follow-up of the 13 long-term excretors identified during 40 years of OPV use has found that only two are known to continue to excrete. Data from the UK and US suggest that persistent excretion occurs in at most 0.01-1% of persons with immunoglobulin deficiency diseases. An IPV study in Cuba to address immunogenicity and mucosal immunity in such settings has been initiated and will be completed in 2002. A study of the circulation of OPV-derived viruses before, during and after a switch to IPV in New Zealand has been designed to measure the effect of IPV on VDPV circulation. Draft scenarios for IPV demand have been prepared and UNICEF is preparing a request for commercial information to determine the potential supply and public sector price. To better understand the potential impact of OPV campaigns on the dynamics of VDPVs, systematic analyses of data on Sabin-like isolates after supplementary immunization activities were initiated. The development of a vaccine stockpile is at the concept stage and accelerated activity in this area is a priority in 2002-2003.

Policy development

The second area of work involves international consensus building on policy for the post-certification era and is built into the milestones for 2002 and 2003. This includes the evaluation of the economic, political, operational and financial implications of each option. An April 2002 meeting sponsored by the Institute for Global Health, primarily on post-certification immunization policy development held in Annecy, France generated important information on the process and criteria required to develop national policy for the post-certification era. This forum has led to suggestions on appropriate mechanisms for discussing and generating policy consensus. In follow-up to this, a framework for national policy development will be established in 2002, and at least one forum will be held in each geopolitical block to receive input on post-certification policy in 2003. A detailed communication plan has already been developed to keep interested parties abreast of the post-certification issues, and will be reviewed by mid-2003.

8 At time of printing, a potential episode of cVDPV was under investigation in Madagascar.



Filling the research and policy development gaps

WHO will lead the coordination of work to address the remaining gaps in research and programmatic information required, as per the recommendations of the 7th Global TCG. Included is: forming a working group to accelerate work on the requirements for a vaccine stockpile; an expansion of studies into middle income countries to evaluate the incidence and potential risk posed by severe immunodeficiency syndromes; and an evaluation of the time, costs and other factors involved in restarting OPV production after immunization with OPV has been discontinued. In addition, further work will be undertaken to evaluate potential laboratory markers that correlate with transmission of VDPVs. Additional studies will also be conducted on IPV efficacy in developing countries, including a multi-year demonstration project of IPV routine use in a tropical island setting.

Recognizing the progress in the programmatic and scientific research agenda for development of post-certification immunization policy for polio, WHO will develop policy decision models over the next 12 months that reflect how the range of possible research outcomes would affect post-certification policy development. These decision models will be tested with a range of experts familiar with policy development in representative geopolitical areas. The work being undertaken by different institutions, on the economic and financial implications of the possible post-certification immunization scenarios, will be consolidated by mid-2003 to provide a comprehensive view of the potential resource requirements.

Strengthening health systems through routine immunization and surveillance

2001 Milestones:

The lessons learned from polio eradication will be applied for use in strengthening routine immunization programmes, including use of the checklist to optimize the impact of polio eradication on routine immunization systems.
Status: Achieved.

Immunization management training modules will begin to be updated to incorporate lessons learned from polio eradication.
Status: Achieved.

The Forty-first World Health Assembly resolved to eradicate polio in such a manner as to improve the delivery of other health services, stating that polio eradication should *'be pursued in ways which strengthen the development of the Expanded Programme on Immunization as a whole, fostering its contribution, in turn, to the development of the health infrastructure and of primary health care'*[9].

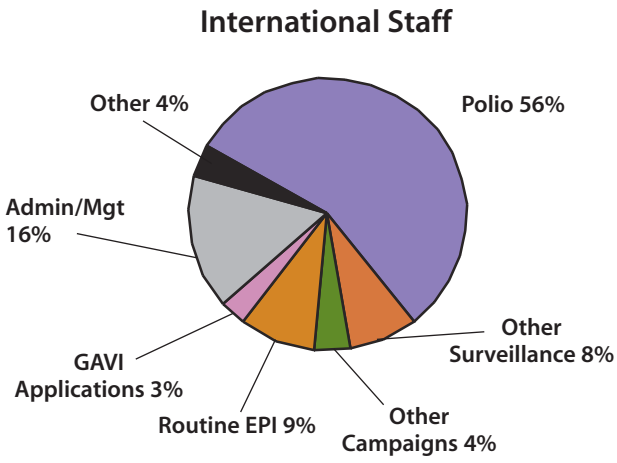
Towards this end, the World Health Organization and the polio partners are working to ensure the broader benefits of the polio eradication investment and infrastructure are optimized in three key areas:

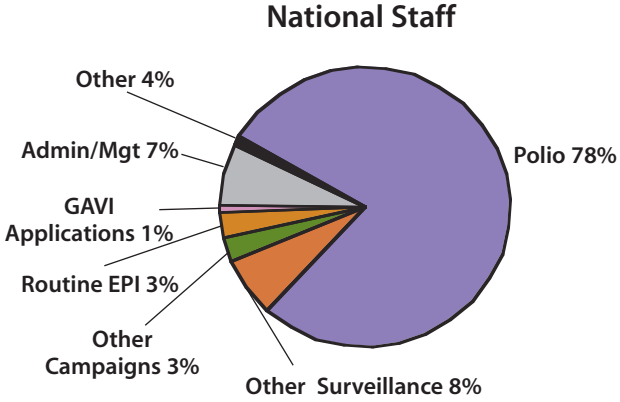
- Routine immunization services
- Disease surveillance
- Application of partnership lessons

Building on the findings of more than 15 studies and the recommendations of a 1999 *Meeting on the impact of targeted programmes on health systems*[10], in 2000 WHO undertook a detailed mapping of the polio eradication infrastructure to identify its major elements. This mapping identified five major elements, all of which could be used to facilitate the delivery of other health services. These are: institutional arrangements, physical infrastructure, human resources, strategies, and processes. In 2001, WHO began developing a programme of work to optimize the use of the polio eradication infrastructure and to establish next steps in each of the three key areas of work outlined above.

Polio eradication human resource infrastructure represents a particularly valuable resource of which countries and partners are planning to take advantage well beyond certification of polio eradication. To this end, and further to the 2001 6th Global TCG recommendation to document the impact of the polio infrastructure on other health services, an extensive survey on the work of WHO polio-funded personnel was conducted. Initial analyses found that the overwhelming majority of staff – 91% of polio-funded international and 100% of national personnel – are regularly engaged in routine EPI and surveillance activities; 65% had participated in measles or tetanus campaigns in 2001; and 68% conduct surveillance for other diseases.

Polio-funded staff time





9 World Health Assembly. Global eradication of poliomyelitis by the year 2000. Geneva: World Health Assembly, 1998, WHA Resolution 41.28.
10 Meeting on the impact of targeted programmes on health systems : a case study of the Polio Eradication Initiative, WHO, Geneva, 16-17 December 1999, WHO/V&B/00.20.

Building on the polio infrastructure

As the interruption of transmission of the wild poliovirus is achieved in the vast majority of countries, these will be increasingly able to build on lessons learned in polio eradication, contributing to strengthened health systems. The 2001 review of the programme found several areas for consideration as this transition is made.

Polio eradication activities have traditionally reached out to vulnerable populations in remote, underserved areas, instilling new confidence in health staff, providing important demographic data, maps and microplans for the delivery of other health and humanitarian services. Now additional work must be undertaken to ensure this infrastructure and expertise is used to facilitate the delivery of additional services. One example of this is the *Guidelines for sustainable outreach services (SOS)*[11], a tool for reaching inaccessible populations. Pilot projects have begun in four countries (Chad, Mali, Mozambique and Uganda). Mechanisms will be developed for systematically transferring the lessons learned for microplanning and reaching the unreached.

11 Guidelines for sustainable outreach services (SOS), WHO/V&B/00.37

Another issue to examine is the concern that provision of immunization services, through a house-to-house approach, would raise expectations of door-to-door delivery of routine immunization. Early recognition of this concern at global, regional and national levels is leading to the development of strategies to address this issue, focusing in particular on community mobilization and IEC efforts.

Future steps include the need to:

- Establish and implement a long-term plan for the transition of polio-funded human resources including the skills and training needed as they expand responsibilities to systematically address broader immunization and surveillance issues.
- Establish and implement a long-term plan for the replacement and refurbishment of the polio-funded physical infrastructure.
- Establish mechanisms for systematically transferring the lessons learned for micro-planning and for reaching the unreached.

Overall, the most fundamental challenge will be to ensure the financial resources necessary are made available after polio eradication funding is no longer required. It is thus imperative that a continued advocacy and resource mobilization strategy is implemented at all levels to ensure such continued financial commitment. ■

Strengthening health systems through routine immunization and surveillance

2002 Milestones:

Routine immunization

Five of the countries with a large polio infrastructure will have explicit phased plans linking that infrastructure with the routine EPI goals.

Surveillance

All countries using AFP surveillance will have established a timeframe for expansion to include the notification of at least tetanus and measles cases with laboratory capacity to diagnose measles.

Partnership

Lessons learned from the Interagency Coordinating Committees (ICCs) are documented, with best practices defined.

Strengthening health systems through routine immunization and surveillance

2003 Milestones:

Routine immunization

All of the ten countries with a large polio infrastructure will have explicit phased plans for linking that infrastructure with the routine EPI goals.

Surveillance

All countries using AFP surveillance will have included at least tetanus and measles in the system and established laboratory capacity to diagnose measles.

Partnership

ICC best practices are disseminated and introduced, at least in the 74 countries receiving GAVI assistance.

The funding gap –
The single greatest threat to polio eradication

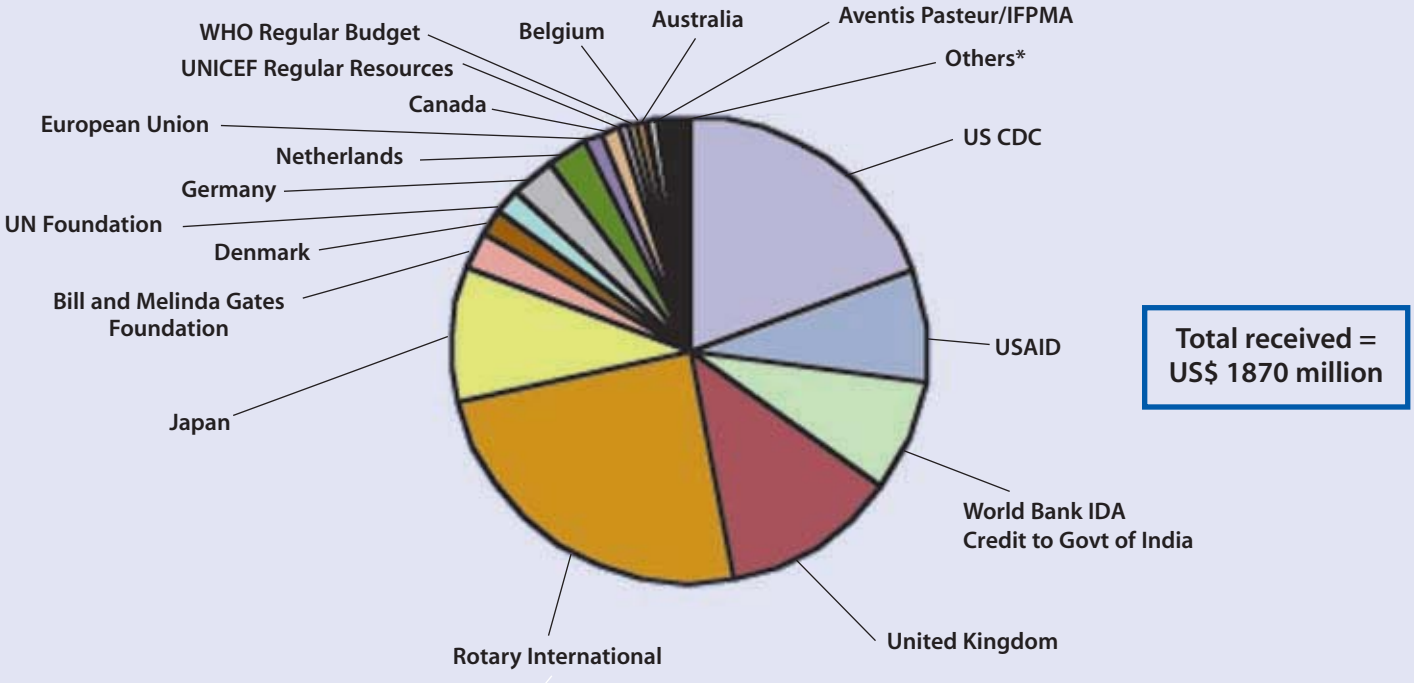
Closing the funding gap

The considerable progress in 2001 towards global polio eradication was largely possible due to continued support from the international polio eradication partnership. During the past year, the funding gap was reduced from US$ 400 million to US$ 275 million, even with additional costs due to an increase in the price and required supply of OPV, an intensification of supplementary activities with the adoption of a house-to-house strategy and increased costs of surveillance. Despite this tremendous progress, the 7th Global Polio TCG stressed the funding gap "constitutes the greatest threat" to polio eradication, and that "closing the funding gap should be the highest priority of the partnership."[12]

As of April 2002, total external resources required for 2002-2005 was US$ 1 billion. Of this, US$ 725 million was projected or pledged, leaving a US$ 275 million funding gap. Major donations from Canada, Japan, the Netherlands, the United Kingdom and the United States helped reduce the funding gap in 2001. Encouraged by the progress in the programme, the GPEI welcomed new partners, including Austria, Ireland and Luxembourg (*see pie chart on page 20*).

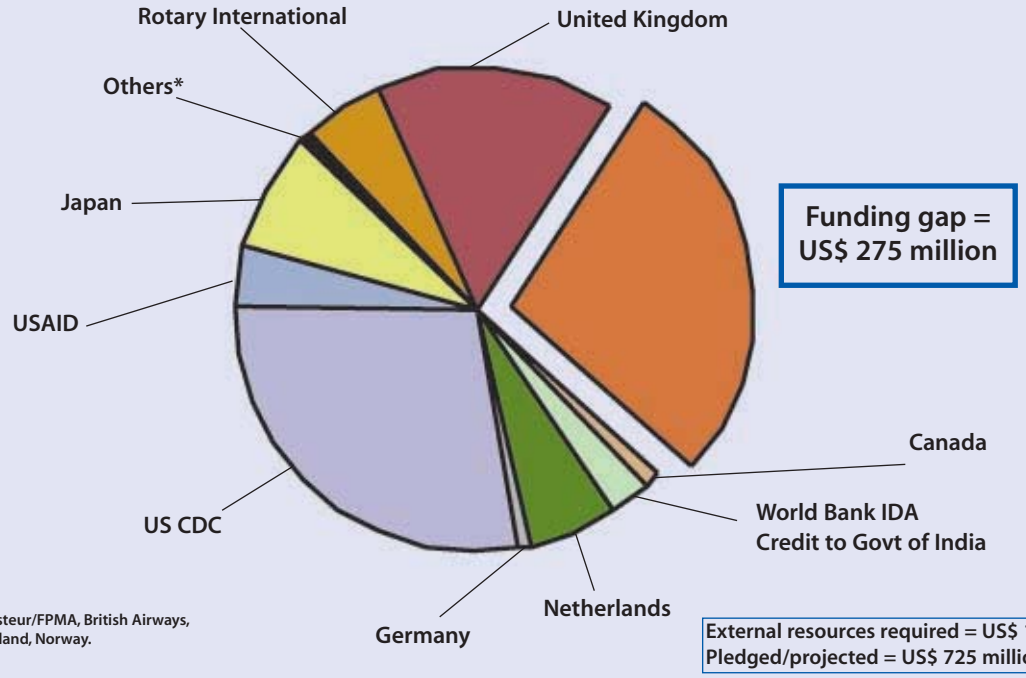
12 *Report of the 7th meeting of the Global Technical Consultative Group for Poliomyelitis Eradication.* Geneva, 9-11 April 2002.

Donor contributions to polio eradication, 1985–2001



* 'other' includes contributions from the Governments of Austria, Finland, Ireland, Italy, Luxembourg, Malaysia, Norway, Oman, Republic of Korea (GOK), Switzerland, United Arab Emirates, the European Union, Custom Monoclonals International (USA), De Beers, Martina Hingis, Millenium Fund, SmithKline Biologicals (Belgium), Wyeth and UNICEF National Committees.

Status of pledges and projections by major donors, 2002–2005



Substantial efforts continue to generate new funds for the GPEI. WHO, UNICEF and other partners continue to support fundraising at global, regional and national levels. Rotary International and the United Nations Foundation (UNF) are collaborating on a private sector fundraising campaign. Rotary International is also supporting a new campaign in 2002, with the goal of raising US$ 80 million from Rotarians around the world.

New fundraising initiatives and donor support

New initiatives:

European Union Collaboration: In May, the European Commission (EC) provided US$ 17.4 million for polio activities in Nigeria. The partnership is currently working in polio priority countries as well as those within the Economic Community of West African States (ECOWAS) to facilitate greater support.

Trick or Treat Campaign: The US Fund for UNICEF signed an agreement with Rotary International and the UNF to give the proceeds from the 2001 and 2002 Trick or Treat Campaign to polio eradication activities. Rotary International worked through its extensive club mechanism to promote the campaign and the UNF pledged to match each dollar raised by 25 cents. This initiative is projected to raise US$ 8 million over two years.

Continued support:

Rotary International/UNF Private Sector Campaign: Launched during the Global Polio Partners' Summit, this worldwide private sector fundraising campaign targeted blue-chip corporations, foundations and philanthropists. More than US$ 5 million was raised in 2001.

Donor support:

Austria: Austria made its first contribution to the PEI in 2001.

Aventis Pasteur: Aventis Pasteur contributed 50 million doses of OPV to five conflict-affected countries in Africa over a three-year period.

Australia: Australia pledged to match private sector donations from the Rotary International/UNF campaign up to US$ 5 million.

Belgium: The Belgian Government matched contributions by a ratio of three to one from the Belgian Rotary Club Foundation to the Initiative.

Bill and Melinda Gates Foundation: In addition to its previous contributions (US$ 25 million), the Gates Foundation announced its commitment to support a unique public/private sector partnership with the World Bank and Rotary International to provide OPV in up to eight priority countries.

Canada: In March 2001, Canada signed a new three-year agreement to support polio eradication in Nigeria, and also provided unspecified global funding to the Initiative for a total of US$ 16 million.

CDC: As well as being a core technical partner in the Initiative, the US CDC provided US$ 82 million for OPV and operations costs in addition to programme support through its Atlanta-based headquarters.

De Beers: The London-based staff undertook a variety of fundraising and awareness-raising activities to raise US$ 35 000. This support follows a two-year, US$ 2.7 million commitment to Angola in 1999/2000 by DeBeers to support NIDs activities.

Denmark: Denmark continued its support to India, fulfilling a US$ 30 million, six-year commitment to polio eradication in this priority country.

Finland: Finland continued its support for the laboratory network, providing US$ 90 000 for activities conducted at Kansanterveyslaitos Folkhalsoinstitutet (KTL), the Polio Reference Laboratory.

Germany: Germany continued its commitment to India, providing an additional US$ 9 million for OPV.

Italy: In addition to providing US$ 2 million to polio eradication activities in India, Italy continued its support for the Polio Reference Laboratory in Rome.

Ireland: Ireland, a new partner in the Initiative, provided US$ 2.2 million in global funding for the next three years as well as bilateral support to Ethiopia.

Japan: Japan continued to be an important donor to the programme, contributing US$ 39 million for OPV, cold chain and logistics in numerous countries including India, Nigeria and Pakistan.

Luxembourg: The Government of Luxembourg, with its first contribution to the Initiative, reviewed the 2001 funding gaps for six of its priority countries – Burkina Faso, Cape Verde, Mali, Namibia, Niger and Senegal – and made a timely US$ 3.2 million contribution to fill these gaps.

The Netherlands: The PEI received a significant year-end boost with the December contribution of US$ 60.6 million, to be focused on surveillance and response activities, bringing the total Dutch contribution since May 2000 to more than US$ 110 million.

Norway: Norway provided US$ 2.2 million in global unspecified funding. Norway also provided bilateral support to Ethiopia, Indonesia and Nepal.

Rotary International: Rotary International, the largest private sector donor to the PEI, continued its outstanding commitment by providing US$ 38 million to countries in all endemic regions in 2001. This commitment brings Rotary International's total contribution to the Initiative to US$ 462 million globally.

United Kingdom's Department for International Development (DFID): DFID signed two multi-year agreements, totalling US$ 135 million, to support polio eradication in India. DFID also began discussions on a multi-year contribution of global, unspecified funding to the PEI. DFID continued its bilateral support to Bangladesh and Nepal.

UNICEF National Committees: Three UNICEF National Committees provided support to the PEI in 2001. The UK's National Committee, through British Airways "Change for Good" programme, provided US$ 700 000 to Zambia. The Canadian National Committee provided US$ 65 000 in global funds and the German National Committee provided support for operational costs in Angola.

USAID: USAID provided US$ 25 million to support a range of polio areas of work, including communications, social mobilization, surveillance, operational costs and the global lab network, in many polio priority countries.

United Nations Foundation: The UNF provided critical support to strengthen the Initiative's resource mobilization capacity, both globally and in Nigeria. ■

Photo: WHO/J.M. Giboux

Photo: Rotary International

Below:
Japanese funding for Ethiopia helped purchase these freezers, crucial for the vaccine cold chain.

Photo: WHO/P. Blanc

Partnership support and advocacy

Photo: WHO

UN Secretary-General Kofi Annan helped bring polio eradication to the forefront as he administered oral polio vaccine in a refugee camp in Pakistan, and in Delhi, India in March. The Secretary-General also appealed for calm at the outset of the Central Africa synchronized NIDs, which included Angola and the Democratic Republic of the Congo, urging "all leaders in these countries and all warring parties to respect the National Immunization Days as 'Days of Tranquillity'."

Several **heads of state** led their countries' eradication efforts. The largest gathering of these leaders took place in Lungi, Sierra Leone, when **Presidents Olusegun Obasanjo** (below left) of Nigeria, **Alpha Oumar Konare** (below back) of Mali and **Ahmad Tejan Kabbah** of Sierra Leone

Photo: WHO

launched synchronized NIDs involving the immunization of more than 60 million children in the 16 members of the Economic Community of West African States (ECOWAS) in October. **President Joseph Kabila** of the Democratic Republic of the Congo led Central Africa in its synchronized NIDs, hosting the launch event in Kinshasa in July. **Prime Minister Atal Bihari Vajpayee**, and **President K R Narayanan of India** helped lead India's polio eradication efforts, and administered OPV to children to launch the 2001 NIDs. Former **Norwegian Prime Minister Jens Stoltenberg** administered oral polio vaccine to children at a maternity centre in New Delhi in April.

Photo: WHO/S. Torfinn

Polio eradication was at the top of the agenda for **Dr Gro Harlem Brundtland**, Director-General of **WHO** at Rotary International's annual convention in Texas. Dr Brundtland gave the keynote address, congratulating Rotarians on their extraordinary efforts. Dr Brundtland also travelled to two polio priority countries in 2001, Pakistan and the Democratic Republic of the Congo. In Pakistan, Dr Brundtland met with the Minister of Health and the Director General of Health, and stressed the need to carry out high quality immunization activities in order to interrupt transmission.

Carol Bellamy, Executive Director of **UNICEF**, travelled to Angola and the Democratic Republic of the Congo in August to witness the synchronized effort in Central Africa. "In DRC, Angola, Somalia – and other countries where there's war – not only do you need the vaccine, not only do you need the campaign, but you've got to try to get the parties to agree to stop fighting, at least for that period of time," she said. Ms Bellamy also addressed 25 000 Rotarians at the

Photo: © UNICEF/HQ00-0653/ Radhika Chalasani

annual Rotary International Convention – praising the service club for its undeterred commitment to polio's eradication.

Rotary International President Richard D. King travelled to two polio-priority countries – India and Nigeria. In Nigeria in January, he joined Nigerian Vice President Atiku Akubakar to launch the first round of NIDs for the year. In India, the Rotary President convened more than

Photo: Rotary International/J.M. Giboux

1000 Rotary club members, government officials and world health leaders at Rotary's Presidential PolioPlus Summit in February to focus efforts on eradicating polio in south Asia.

On her first official trip as UNICEF Special Representative for polio eradication, noted actress **Mia Farrow** and her 13-year old son Seamus visited Nigeria in January to help launch a country-wide polio eradication campaign aimed at reaching over 40 million children under the age of five. A tireless advocate for childrens' rights, Ms Farrow knows first-hand the debilitating effects of polio. "I was infected with the virus as a child and my 13-year old son Thaddeus, adopted in India, is paralysed from poliomyelitis," Ms. Farrow said. "The eradication of polio has always been my dream."

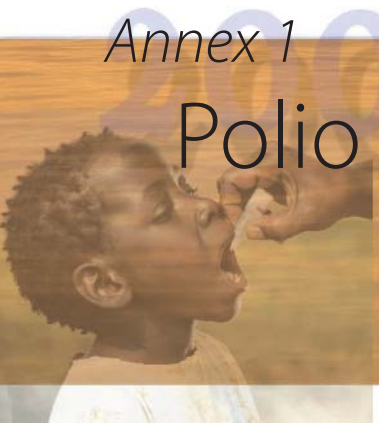
Photo: © UNICEF

Photo: © UNICEF/Garrett Gee

World-renowned photographer **Sebastião Salgado** focused his lens on polio eradication activities in the Democratic Republic of the Congo, India, Pakistan, Somalia and Sudan in 2001. Mr Salgado's polio eradication photographs have already featured in several publications including Stern, Vanity Fair, Paris March and La Vanguardia. "We will build a big wave, to make people conscious that polio still exists in the world, and that we, all the planet together, can finish with it," said Mr Salgado during his visit to Somalia. A global exhibit of his polio eradication work is underway in 2002, along with a website (www.endofpolio.org). A book is scheduled for release in Spring 2003.

Other celebrities and sports heroes played an important role. **NBA star Dikembe Mutombo** helped launch the September round of the Central African synchronized NIDs in Kinshasa, stretching a polio jersey over his 7' 6" frame. Congolese music star **Werason** spent a day immunizing children in Kinshasa, encouraging parents to have their children vaccinated. Oscar-winning London-based production company **Partizan Midi-Minuit** donated time to produce three public service announcements for the Initiative. Starring Kenyan Olympic heroes **Kip Keino** and **Noah Ngeny** and supported by athletic wear company Puma, the PSAs were **aired by over 300 broadcasters worldwide including CNN International**.

Media continued to play a crucial role in social mobilization and advocacy. **Voice of America's Polio Eradication Project** produced news features, public service announcements, listener contests and other programming geared toward motivating people around the world to participate in NIDs. The **BBC World Service** has also played a key role in informing communities about NIDs and the importance of immunization, particularly in conflict-affected countries such as Somalia, where radio often serves as the only public channel of communication. ■



Annex 1

Polio eradication objectives and milestones 2002-2003

Objective	Milestones 2002	Milestones 2003
Interrupting transmission of polioviruses	Transmission of wild poliovirus will be stopped in all countries. EUR will be certified polio-free.	Maintenance of global polio-free status.
Supplementary immunization activities (SIAs)	**Endemic countries** 3-4 NIDs/year and mop-up campaigns will continue in all countries that were endemic in 2000-2001, using a house-to-house strategy. **Polio-free countries** Continued annual SIAs in all high-risk polio-free countries and long-term SIA plans established for all countries with OPV3 < 90%.	**Endemic countries** 3-4 NIDs/year and mop-up campaigns will continue in all countries that were endemic in 2001-2002, using a house-to-house strategy. **Polio-free countries** Continued annual SIAs in all high-risk countries, and other polio-free countries with <90% OPV3 conducting SIAs at least every 3 years.
Certification-standard surveillance	**AFP surveillance** Certification-standard surveillance will be achieved and maintained in all regions and in >90% of countries. **Certification** National Certification Committees will be established in all countries including all endemic and recently endemic areas.	**AFP surveillance** Certification-standard surveillance will be achieved or maintained in all countries of AFR, EMR & SEAR. **Certification** Regional Certification Committees receive preliminary reports from National Certification Committees of all countries which have been polio-free for more than three years.
Containment of wild poliovirus stocks	**Process** National Task Force / Coordinator and National Plans of Action for laboratory containment are established in all non-endemic countries. **Outcomes** National laboratory surveys are initiated in all non-endemic countries of AMR, EMR, EUR, SEAR with complete inventories in WPR.	**Process** Regional plans of action are established for the "post wild poliovirus interruption" phase in AMR, EUR, and WPR. **Outcomes** National laboratory survey initiated in all countries with inventories complete in AMR, EUR and the non-endemic countries of EMR and SEAR.

2002 2003

Objective	Milestones 2002	Milestones 2003
Development of post-certification immunization policy	**Data generation** All progammatic data required for policy development has been identified or collected. **Policy development** A framework is developed for assessing and managing post-certification risks of paralytic polio.	**Data generation** All scientific research data required for policy development is being collected. **Policy development** At least one forum is held with key policy-makers in each geopolitical block to receive comments on the risk framework and post-certification immunization policy options.
Strengthening health systems through routine immunization and surveillance	**Routine immunization** Five of the countries with a large polio infrastructure will have explicit phased plans linking that infrastructure with the routine EPI goals. **Surveillance** All countries using AFP surveillance will have established a timeframe for expansion to include the notification of at least tetanus and measles cases with laboratory capacity to diagnose measles. **Partnership** Lessons learned from the Interagency Coordinating Committees (ICCs) are documented, with best practices defined.	**Routine immunization** Ten countries with a large polio infrastructure will have explicit phased plans for linking that infrastructure with the routine EPI goals. **Surveillance** All countries using AFP surveillance will have included at least tetanus and measles in the system and established laboratory capacity to diagnose measles. **Partnership** ICC best practices are disseminated and introduced, at least in the 74 countries receiving GAVI assistance.

2002 2003

Photo: WHO/J.M. Giboux

milestones

Abbreviations

AFP	acute flaccid paralysis
AFR	WHO African Region
AMR	WHO Region of the Americas
CDC	United States Centers for Disease Control and Prevention
cVDPV	circulating vaccine-derived poliovirus
EMR	WHO Eastern Mediterranean Region
EPI	Expanded Programme on Immunization
EUR	WHO European Region
GPEI	Global Polio Eradication Initiative
IPV	inactivated poliovirus vaccine
NGO	nongovernmental organization
NIDs	National Immunization Days
OPV	oral polio vaccine
PEI	Polio Eradication Initiative
SIA	supplementary immunization activity
SEAR	WHO South-East Asia Region
SNIDs	Sub-National Immunization Days
SOS	sustainable outreach service
TCG	Technical Consultative Group for Poliomyelitis Eradication
UNICEF	United Nations Children's Fund
VAD	vitamin A deficiency
VDPV	vaccine-derived poliovirus
WHA	World Health Assembly
WHO	World Health Organization
WPR	WHO Western Pacific Region

The spearheading partners of the Global Polio Eradication Initiative are:

WHO

ROTARY INTERNATIONAL

CDC

unicef

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